this period reached a very advanced development indeed, as may be seen from the appended figure of a golden cap found in Tipperary. It is most beautifully ornamented in *repoussé*.

Silver and gold ornaments in this age became abundant. The concluding chapters in the book are on the Overlap of History (the Egyptian, Assyrian, Phœnician, and Greek Influences) and on Britain in the Historic Period (the Exploration of the British Coasts, and Roman Britain). We cannot follow the author further, but commend his book to our readers as one that will well repay perusal throughout.

THE HYDROGRAPHIC DEPARTMENT

We observe that some of our contemporaries have opened their columns to certain strictures upon a public department standing well, and to our knowledge deservedly so, in the estimation of scientific circles in this and other countries.

It would appear that a Lieutenant of the Royal Navy, unknown, as we are informed, in his profession from the fact of his having retired from its active service at an early age, amused himself some few years back by a yachting excursion on the shores of Norway, in a small and crazy decked boat, undergoing, as might have been anticipated, some hardships in this excursion, which extended into the rigorous winter of that region. Gaining thus some knowledge of the coast traversed—but necessarily, from its great extent and intricate character, knowledge of a very superficial kind—the Lieutenant's experiences have recently formed the subject of an evening's entertainment at the Royal Geographical Society. Somewhat unfortunately for the ends of science and navigation, this adventurous cruise in a crazy barque has been in consequence dignified into a hydrographical survey, an appellation ludicrously inapplicable from the conditions under which the cruise was made, as related by the adventurer himself.

The ambitious *voyageur*, now extending his operations, under the leadership of an official of the Royal Geographical Society, has just addressed an audience at the Society of Arts on the "Trade Routes between England, Norway, and Siberia." We had expected at least some shreds of information on this topic, but find ourselves treated instead to a rude and ungenerous attack on the Hydrographic Department of the Admiralty, for some supposed shortcomings in its dealings with the officer, to whom the department had confided—mistakenly it seems—the revision of the sailing directions of that part of Norway on which the Lieutenant claimed to be an authority.

The Society of Arts commends itself to all reasonable men for the breadth and strength of its operations; we regret that it should in this instance have been exploited and made the arena, under cover of a legitimate object, for an attack, from personal motives, on a public department which has done and is doing good and honest service for the seamen of all nations. We believe we are only performing an act of merited justice in directing attention to the endeavours of a small, obscure, but self-asserting clique, bent apparently on discrediting a valuable and efficient department, affiliated in many ways to science, and well known to many of its ablest workers.

NOTES

Prof. W. H. Miller died at Cambridge on Thursday, May 20, in his eightieth year. He graduated in 1826, being Fifth Wrangler, and shortly afterwards became a Fellow of St. John's College. He served his college as tutor during several years. On the resignation of Dr. Whewell in 1832 he became Professor of Mineralogy. He published his celebrated "Treatise on Crystallography" in 1838. This work was at once adopted by some of the most eminent foreign crystallographers, and may now be said to be universally accepted. It was translated into German and French. His "Manual of Mineralogy" appeared in 1854, and, like the former book, forms an era in the history of the science. It is full of the results of his own careful research. He is the author of several other books, and of numerous memoirs published in the various scientific journals. The memoir on the standards of weights is a classical research on the subject of weights, and is a monument of delicate and careful research. He was Foreign Secretary of the Royal Society, and was presented with the Society's gold medal in 1870 for his numerous contributions to science. Cambridge has especial cause to be grateful to him for the very splendid collection he has brought together. The collection consists almost entirely of donations; and the two noble gifts of the Hume and Brooke collections mark in a striking manner the appreciation in which Prof. Miller was held by lovers of minerals.

On the same day as Prof. Miller died Prof. David Thomas Ansted, F.R.S., at the age of sixty-six years. Prof. Ansted was born in London in the year 1814. He graduated at Jesus College, Cambridge, was a Wrangler in 1836, and was elected in due course a Fellow of his college. In 1840 he was appointed to the Professorship of Geology in King's College, London. Five years later he became lecturer on geology at Addiscombe College, and also at the Civil Engineering College at Putney. About the same time he was made assistant secretary to the Geological Society, whose quarterly journal he edited for many years. From about 1850 down to a very recent date he was extensively engaged in the application of geology to the engineer's work, in mining, and in various other departments of industry. He has also been frequently employed as an examiner in physical geography under the officers of the Government Department of Science and Art. Prof. Ansted's works are very numerous; among them may be mentioned—besides his contributions to the transactions of learned and scientific societies—his "Application of Geology to the Arts and Manufactures," his "Physical Geography," his "Elementary Course of Geology and Mineralogy," and "The World we live in." Prof. Ansted was elected a Fellow of the Royal Society in 1844.

General Myer has sent a letter to his numerous correspondents, requesting, on behalf of the United States, that the hour for taking the simultaneous meteorological observations, from which are constructed the U.S. Weather Maps, be changed to a time thirty-five minutes earlier than at present; in other words, as regards the British islands, that the observations be made at 0h. 8m. p.m., instead of 0h. 43m. p.m. Greenwich mean time, and that the change be made to take effect on September 1, 1880. The proposed change being rendered necessary by the exigencies of the Signal Office, the request will doubtless be gladly acceded to.

The second example of *Archæopteryx* is, we are informed, at present merely *on deposit* in the Geological Museum of Berlin, under the care of Dr. Beyrich, although it is expected that arrangements will shortly be made for its purchase by the authorities of that institution. It was bought from Dr. Haeberlein, of Pappenheim, by Herr Siemens, of Berlin, for the sum of 20,000 marks (1,000*l.*), in order to save it from an impending transfer to America, and to secure this valuable specimen for German science.

The "Leopoldinische-Carolinische" Academy of Naturalists at Halle has presented this year's Cothenius medal to Dr. A. Michaelis, Professor of Chemistry at the Polytechnic High School of Karlsruhe, in recognition of his valuable researches in organic substances containing phosphorus.

AMONG the names mentioned for the honour of D.C.L. at the approaching Oxford Encænia is that of Prof. Sylvester.

WE regret to announce the death of Dr. Richard Biedermann, editor of the *Centralblatt für Agricultur-Chemie*. He died at Leipzig on May 10, at the early age of thirty-seven years.

IT is a fact worth noting that M. Chevreul, who is now in his ninety-fifth year, has begun his course on Chemistry at the Paris Museum of Natural History, with as much apparent zest and energy as he did fifty years ago when he first entered on his duties of that chair. The programme of his course, *Les Mondes* informs us, is beautifully and firmly written in his own hand. Notwithstanding his approach to the centenary, he still looks young and fresh.

A CORRESPONDENT, writing from Cherry Hill, Arnold, near Nottingham, informs us that he brought home from the Geisberg, in the autumn of 1877, a few specimens of the Edelweis, which he planted amongst some rock-plants in his pleasure-grounds situated on an eminence. It disappeared gradually altogether until last spring, when it came out to perfection. Towards the autumn he lost sight of it again, but a fortnight since signs of its reappearance were so developed that no doubt exists of its full growth, and in greater perfection than ever.

THE two first parts of a new botanical work by Dr. Dodel-Port, of Zürich, have just been published by Herr Cæsar Schmidt of that city. The title of the work is "Illustrirtes Pflanzenleben," and it promises to become one of unusual interest. In part I the lower fungi are described in a popular manner. The author undertakes to popularise the results hitherto attained in our knowledge of putrefaction- and contagion-fungi. He describes their forms, their size, and their manner of propagation; introduces the reader to their mode of life, and points out the danger arising to the human race from these minute organisms. The description is accompanied by two excellent plates, in one of which we recognise a reproduction on a small scale of a plate from the same author's famous "Atlas der Botanik für Hoch und Mittelschulen." Another chapter treats of miasma and contagions, and gives a complete account of the present state of our knowledge of infection-fungi. Part 2 is devoted to carnivorous plants, and is even more generally interesting perhaps than the first. The work is profusely illustrated with the author's original drawings. Altogether it is sure to form a very welcome and valuable addition to botanical literature.

THE death is announced of Dr. J. G. Mulder, Professor of Chemistry at Utrecht University. Dr. Mulder's name was well known in the scientific world; he died at the age of seventy-seven years.

THE Iron and Steel Institute holds its autumn meeting this year at Düsseldorf, by invitation of the German iron trade, on August 25 and four following days. An extremely interesting programme of excursions and meetings has been arranged.

AN interesting Report on the Meteorology of the Italian Mountains has been presented by the Rev. Prof. F. Denza to the International Congress of Alpine Clubs at Geneva. It appears that observations are regularly made at 113 mountain stations, the names, elevation, and geographical position of which are given in the report. Some of these stations, from their altitude and position, are of the greatest importance for the study of meteorology in the higher regions of the atmosphere. Three of them are specially worthy of notice, viz., Stelvio (2,543 metres), Valdobbia (2,548 metres), and Piccolo S. Bernardo. All stations are provided with good instruments, and meteorological observations are taken at some stations every three hours from 6 a.m. until 9 p.m. The results of the observations are carefully printed and circulated by Prof. Denza.

A GENERAL MEETING of the Mineralogical Society of Great Britain and Ireland will be held at the Meteorological Office, 116, Victoria Street, London, S.W., on Tuesday evening, June 1. The chair will be taken by Prof. T. G. Bonney, F.R.S., vice-president, at 8 p.m. The following papers will be read:—"On a New Face on Crystals of Stilbite, from Scotland and Western Australia," by the president; "On a Portable Chemical Cabinet for Quantitative Work," by A. E. Arnold (communicated by J. H. Collins); "On Kaolinite and Kaolin," by J. H. Collins. Other communications intended to be read at this meeting should be sent to J. H. Collins, Hon. Sec., care of Mr. R. H. Scott, at the above address.

THE Society of Telegraph Engineers have done valuable service to science by publishing the "Catalogue of Books and Papers relating to Electricity, Magnetism, the Electric Telegraph, &c., including the Ronalds Library," compiled by the late Sir Francis Ronalds, F.R.S. Some idea of the extent and value of this catalogue may be obtained from the fact that it occupies 560 pages. The work of editing has been carefully and judiciously done by Mr. A. J. Frost, who has prepared a useful memoir of Sir Francis Ronalds. The Catalogue contains 13,000 entries, though we regret that, by the conditions of the trust, the Society were not permitted to bring it up to date. They will, however, we are glad to learn, at no distant date, publish a supplement to the Catalogue, which will remedy this defect. The two together will form an invaluable reference-book in the subjects included in it.

IN reference to a note in NATURE, vol. xxi. p. 525, taken from the *Journal of Applied Science*, on the composition of the well-known Vevey cigars, Messrs. Grant, Chambers and Co., of Fenchurch Street, send us a letter from Ormond and Co., of Geneva, the manufacturers, in which they state that if such cigars exist as we referred to, "it can only be with the object of fraudulently taking advantage of the name of the goods we make, which have enjoyed an increasing reputation for more than thirty years past. The Vevey cigars manufactured by us are composed entirely of selected North and South American tobaccos, without any mixture or adulteration whatever."

A NEW scientific paper now appears at Leipzig every three weeks. It is called *Centralzeitung für Optik und Mechanik*. Dr. O. Schneider is the editor. The avowed object of the paper is to report on the progress in the manufacture of scientific instruments and apparatus, and in the scientific domain where such instruments and apparatus are employed.

A PROPOSAL has been set on foot for lighting the Sheldonian Theatre, Oxford, and the Camera of the Radcliffe Library with the electric light. In a circular addressed to the curators of the Theatre and of the Bodleian Library and to the visitors of the Ashmolean Museum by those interested in the question, it is stated that it has long been regretted by many members of the University that the Sheldonian Theatre is not available in the evening for any purposes of public interest, however great, for want of lighting. The neighbourhood of the Bodleian Library has, however, been a bar to any proposal for lighting by means of gas or any ordinary method. The care with which the heating apparatus of the Theatre has been inclosed within a fire-proof chamber is sufficient evidence of the importance attached by the curators of the Theatre to absolute security in this respect. The development of the electric light has now rendered it possible to illuminate public rooms by a process absolutely free from danger of fire. It has been adopted largely in the reading-rooms of our public libraries, and notably in the reading-room of the British Museum. The security is absolute and unquestionable, provided that the motive power is external to the building: the boon to readers in such reading-rooms is enormous. After discussing the question of the motive power and deciding in favour of a gas-engine, the memorial goes on to state:—"It is suggested that Dr. Siemens, F.R.S., D.C.L., to whom the electric light owes much of its recent development, might with advantage be consulted in connection with this proposal. Whether a permanent institution or an experimental trial is in question, all parties concerned can have the most perfect confidence that everything will be done as it should be in his hands. It is suggested that an experimental trial should be first made, which could be done at comparatively little expense. The memorialists feel confident that if this is conceded the permanent adoption of the light will follow." The memorial is already signed by Professors Henry S. Smith, W. Acland, H. Nettleship, Sayce, Sir Gore Ouseley, and Mr. Warren De la Rue.

THE enterprising Naturalists Society of Dundee had a very successful dredging excursion off the mouth of the Tay and in St. Andrew's Bay on Wednesday last week. Considerable hauls were obtained of familiar denizens of the coast waters, though we regret to learn that under the influence of the gentle swell in St. Andrew's Bay several of the budding naturalists suffered some disturbance of their equanimity, and we fear were not able to do perfect justice to the dinner and tea which were liberally provided on board. At the annual meeting of this Society a satisfactory report was presented, though we do not altogether approve of the movement for the publication of abstracts of the proceedings of the Society in the form of a journal. Such publications, we are inclined to believe, are more gratifying to the vanity of provincial societies than conducive to the promotion of science in any way. We see the Society is uniting with several other Scotch societies to endeavour to obtain the benefit of the Gilchrist Lecture Trust; why do they not take a hint from the line of action in reference to a journal, and endeavour to bring about a union of the various Scottish natural history societies for this and other purposes?

A CORRESPONDENT of the *Scotsman* writes that a colony of rooks has taken possession of a garden which is next to St. Magnus Cathedral, Kirkwall, and built about a score of nests. It is only two or three seasons since rooks made their first appearance in Orkney, and it is supposed the absence of trees in the country districts has caused them to take up their abode in the centre of the town.

Cotton is the title of a new weekly journal for manufacturers and planters.

AN important discovery is stated to have been made in the neighbourhood of Sydney, New South Wales. Boring for coal has been going on in Moore Park for ten months, and about the middle of March a quantity of oily matter was observed to come up, one gush lasting half an hour. This liquid is believed to be crude kerosene, but the analysis was not complete when the last mail left.

THE *Reale Istituto Lombardo di Scienze e Lettere* at Milan offers the following prizes:—For a treatise on Miasma and Contagions (Term May 31, 1881), a prize of 1,500 lire and a gold medal worth 500 lire. For determining by experiments whether the virulent principle of hydrophobia is an organised germ or not, a prize of 6,000 lire (Term February 28, 1882). For a descriptive treatise on the Motor-centres of the Periphery of the Brain, the sum of 2,000 lire (Term April 1, 1881). For the illustration by new research of the ætiology of cretinism and idiotism, 2,000 lire (Term May 31, 1882). Further details can be obtained by application to the Secretary of the Institution.

THE *Forester* is the title of a magazine published in connection with Nottingham High School, No. 7 of which has been sent us. The contents are varied, one paper being on the "Origin of Sandstones."

M. DEHAIRAN has opened the course of lectures that he is to deliver at the Museum d'Histoire Naturelle, on Vegetable Physiology. This chair has been recently created by M. Jules Ferry.

A SCIENTIFIC examination of the Ibaraki mountain range in Japan has resulted in the discovery of marble of different colours. One mountain is believed to be a mass of white statuary marble, and in another place black marble of the finest description was found.

THE additions to the Zoological Society's Gardens during the past week include a Black-faced Kangaroo (*Macropus melanops*) from South Australia, four Short-tailed Wallabys (*Halmaturus brachyurus*), three Vulpine Phalangers (*Phalangista vulpina*), three white-backed Piping Crows (*Gymnorhina leuconota*) from West Australia, presented by Sir Harry St. George Ord, C.B., F.Z.S.; a Javan Chevrotain (*Tragulus javanicus*) from Java, presented by Mrs. L. Dudfield; a Brown Capuchin (*Cebus fatuellus*) from Guiana, an Ocelot (*Felis pardalis*) from South America, a Ring-tailed Lemur (*Lemur catta*) from Madagascar, presented by Mr. Chas. A. Craven: a Pinche Monkey (*Midas œdipus*) from New Granada, presented by Mrs Henry Druman Macaulay; a Long-eared Owl (*Asio otus*), British, presented by Mr. G. E. Dobson, C.M.Z.S.; an Eyed Lizard (*Lacerta ocellata*), an Æsculapian Snake (*Coluber æsculapii*), six Viperine Snakes (*Tropidonotus viperinus*) from San Remo, North Italy, presented by Lieut L. L. Fenton; two Toco Toucans (*Ramphastos toco*) from Guiana, a Brown Passerine Owl (*Glaucidium phalænoides*), a Rusty Urubitinga (*Urubitinga meridionalis*), a Downy Owl (*Pulsatrix torquata*) from South America, deposited; two Guilding's Amazons (*Chrysotis guildingi*) from St. Vincent, West Indies, two Black-tailed Hawfinches (*Coccothraustes melanurus*) from Japan, four Golden Sparrows (*Auripasser euchlorus*) from Abyssinia, four Blood-breasted Pigeons (*Phlogœnas cruentata*) from the Philippine Isles, two Nightingales (*Daulias luscinia*), a Canary Finch (*Serinus canarius*), a Gannet (*Sula bassana*), British, purchased; a Black Wallaby (*Halmaturus ualabatus*), born in the Gardens.

OUR ASTRONOMICAL COLUMN

THE LATE PROF. PETERS.—Prof. Christian August Friedrich Peters, whose death was mentioned last week, was the son of a merchant at Hamburg, and was born on September 7, 1806. His father's fortunes suffered in the war times, and his son's education was attended with difficulties, though he endeavoured to cultivate to the best of his power the natural bent for mathematical studies which was very early evinced. After some years the attention of Schumacher was drawn to the young Peters, and he employed him in various calculations for his ephemerides and geodetical works, and in 1826, and for several years subsequently, he was actively engaged in such operations at Hamburg and in Holstein, at the same time pursuing his studies and incidental employment under Schumacher. He then became for a time a pupil of Bessel, and in 1834 was appointed assistant in the observatory at Hamburg, whence in 1839 he was promoted to a position in the newly-founded Central Russian Observatory at Pulkowa, where he worked in theoretical and practical astronomy for ten years. In 1849 he was named Professor of Astronomy in the University of Königsberg, where he remained until 1854, in which year he was appointed to succeed Petersen in the direction of the observatory at Altona, and at the same time editor of the *Astronomische Nachrichten*, which he conducted up to the period of his decease. He removed to Kiel when the observatory at Altona was transferred to that place, and died there on the 8th inst., after a severe illness of many months' duration.

The works by which Prof. Peters was perhaps more widely known were his "Numerus constans Nutationis ex Ascensionibus Rectis Stellæ Polaris in Specula Dorpatensi Annis 1822 ad 1838 observatis deductus," which appeared in the *Transactions* of the Imperial Academy of Sciences of St. Petersburg in 1842, and the "Recherches sur la Parallaxe des Etoiles Fixes," printed in the same *Transactions* in 1846. For these important